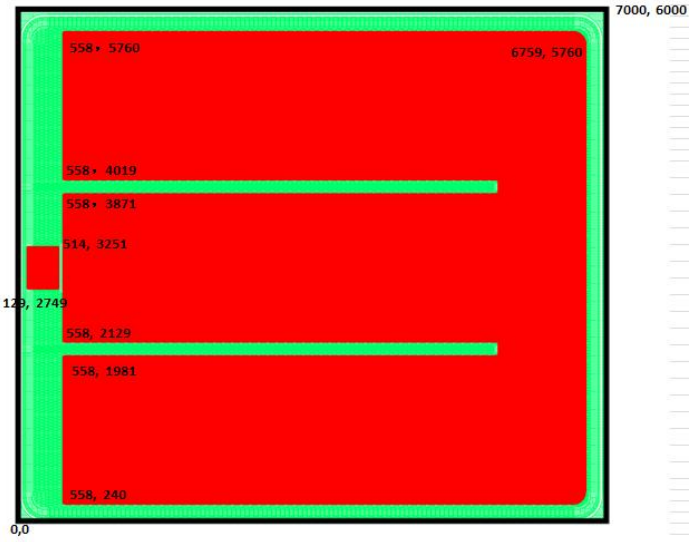


300V MOSFET Wafer

Ordering Information

|            |              |           |   |
|------------|--------------|-----------|---|
| Wafer Name | CDJX648N300A | Chip Name | / |
|------------|--------------|-----------|---|

Die outline and Info.

|                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <div> <div> <math>V_{DS}=300V, I_D=52A</math> </div> <div> <math>R_{DS(ON)} &lt; 68m\Omega</math> </div> <div> Die Size: 7000 <math>\mu m</math> * 6000 <math>\mu m</math> (含划片槽) </div> <div> Gate Pad Size: 385 <math>\mu m</math> * 502 <math>\mu m</math> </div> <div> Source Pad Size: 6201 <math>\mu m</math> * 1741 <math>\mu m</math>* 3, With PA Layer </div> <div> Back Metal: TiNiAg, 1.4<math>\mu m</math> </div> <div> Front Metal, Thickness: AlSiCu, 4<math>\mu m</math> </div> <div> Gross Die: 352 </div> </div> |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Mechanical Data

|                                             |                                                                                 |
|---------------------------------------------|---------------------------------------------------------------------------------|
| Nominal Back Metal Composition:             | TiNiAg 1.4 $\mu m$                                                              |
| Nominal Front Metal Composition, Thickness: | AlSiCu(98.5%-1%-0.5%) 4 $\mu m$                                                 |
| Wafer Diameter:                             | 150 mm (6 inch)                                                                 |
| Wafer Thickness:                            | 300 $\mu m$ +/-20 $\mu m$                                                       |
| Minimum Street Width                        | 60 $\mu m$                                                                      |
| Reject Ink Dot                              | ink                                                                             |
| Recommended Storage Environment:            | Store in original container, in desiccated nitrogen, with no contamination      |
| Recommended Die Attach Conditions:          | For optimum electrical results, die attach temperature should not exceed 300 °C |

## Electrical Characteristic Note\*

( Device Major Electrical Characteristics for TO-247H package Reference ;  $T_J=25^{\circ}\text{C}$  unless otherwise specified.)

| Parameter     | Description                          | Min.                                                  | Typ. | Max.      | Test Conditions                                        | Unit               |
|---------------|--------------------------------------|-------------------------------------------------------|------|-----------|--------------------------------------------------------|--------------------|
| $V_{(BR)DSS}$ | Drain-to-Source Breakdown Voltage    | 300                                                   | --   | --        | $V_{GS} = 0V, I_D = 250\mu A$                          | V                  |
| $V_{GSS}$     | Gate-to-Source Voltage               | --                                                    | --   | $\pm 30$  | NA                                                     | V                  |
| $R_{DS(on)}$  | Static Drain-to-Source On-Resistance | --                                                    | 57   | 68        | $V_{GS} = 10V, I_D = 26A$                              | $m\Omega$          |
| $V_{GS(th)}$  | Gate Threshold Voltage               | 2.0                                                   | --   | 4.0       | $V_{DS} = V_{GS}, I_D = 250\mu A$                      | V                  |
| $I_{DSS}$     | Drain-to-Source Leakage Current      | --                                                    | --   | 1         | $V_{DS} = 300V, V_{GS} = 0V, T_J = 25^{\circ}\text{C}$ | $\mu A$            |
| $I_{GSS}$     | Gate-to-Source Leakage Current       | --                                                    | --   | $\pm 100$ | $V_{GS} = \pm 30V$                                     | nA                 |
| $V_{SD}$      | Body Diode Voltage                   | --                                                    | --   | 1.5       | $V_{GS} = 0V, I_{SD} = 52A$                            | V                  |
| $T_J$         | Operating Junction and               | -55 $^{\circ}\text{C}$ to 150 $^{\circ}\text{C}$ Max. |      |           |                                                        | $^{\circ}\text{C}$ |
| $T_{STG}$     | Storage Temperature Range            |                                                       |      |           |                                                        |                    |

### Note\*

Electrical characteristics are reported for the reference packaged part (TO-247H) and can not be guaranteed in die sales form. Variations in customer packaging materials, dimensions and processes may affect parametric performance.

### Shipping

- One shipping options is offered as standard.
- Un-sawn wafer

### Handling

- Product must be handled only at ESD safe workstations. Standard ESD precautions and safe work environments are as defined in MIL-HDBK-263.
- Product must be handled only in a class 10,000 or better-designated clean room environment.

### Wafer/Die Storage

- Proper storage conditions are necessary to prevent product contamination and/or degradation after shipment.
- Un-sawn wafers and singulated die can be stored for up to 12 months when in the original sealed packaging at room temperature (45% +/- 15% RH controlled environment).
- Un-sawn wafers and singulated die that have been opened can be stored when returned to their containers and placed in a Nitrogen purged cabinet, at room temperature (45% +/- 15% RH controlled environment).
- Note: To reduce the risk of contamination or degradation, it is recommended that product not being used in the assembly process be returned to their original containers and resealed with a vacuum seal process.
- Sawn wafers on a film frame are intended for immediate use and have a limited shelf life.

---

## Disclaimers:

Wuxi Thunder Microelectronics Co.,Ltd. (THUNDER) reserves the right to make changes without notice in order to improve reliability, function or design and to discontinue any product or service without notice. Customers should obtain the latest relevant information before orders and should verify that such information is current and complete. All products are sold subject to THUNDER's terms and conditions supplied at the time of order acknowledgement.

Wuxi Thunder Microelectronics Co.,Ltd. warrants performance of its hardware products to the specifications at the time of sale, Testing, reliability and quality control are used to the extent THUNDER deems necessary to support this warrantee. Except where agreed upon by contractual agreement, testing of all parameters of each product is not necessarily performed.

Wuxi Thunder Microelectronics Co.,Ltd. does not assume any liability arising from the use of any product or circuit designs described herein. Customers are responsible for their products and applications using THUNDER's components. To minimize risk, customers must provide adequate design and operating safeguards.

Wuxi Thunder Microelectronics Co.,Ltd. does not warrant or convey any license either expressed or implied under its patent rights, nor the rights of others. Reproduction of information in THUNDER's data sheets or data books is permissible only if reproduction is without modification or alteration. Reproduction of this information with any alteration is an unfair and deceptive business practice. Wuxi Thunder Microelectronics Co.,Ltd. is not responsible or liable for such altered documentation.

Resale of THUNDER's products with statements different from or beyond the parameters stated by Wuxi Thunder Microelectronics Co.,Ltd. for that product or service voids all express or implied warranties for the associated THUNDER's product or service and is unfair and deceptive business practice. Wuxi Thunder Microelectronics Co.,Ltd. is not responsible or liable for any such statements.

---

## Life Support Policy:

Wuxi Thunder Microelectronics Co.,Ltd.'s products are not authorized for use as critical components in life support devices or systems without the expressed written approval of Wuxi Thunder Microelectronics Co.,Ltd.

As used herein:

1. Life support devices or systems are devices or systems which:
    - a. are intended for surgical implant into the human body,
    - b. support or sustain life,
    - c. whose failure to perform when properly used in accordance with instructions for used provided in the labeling, can be reasonably expected to result in significant injury to the user.
  2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.
-